

IMPACT OF EHLERS DANLOS SYNDROM - HYPERMOBILE TYPE ON LOWER LIMB FUNCTION

De Schepper J. ^(1,2), Verschelde S. ⁽¹⁾, Malfait F. ⁽³⁾, De Paepe A. ⁽³⁾, Calders P. ⁽²⁾, Rombaut L. ^(2,1)

1, Department of Podiatry, Artevelde University College, Ghent, Belgium
2, Department of Rehabilitation Sciences and Physiotherapy, Ghent University – Artevelde University College, Ghent, Belgium
3, Center for Medical Genetics, Ghent University, Ghent, Belgium

INTRODUCTION

The consequences of the hypermobility type of Ehlers-Danlos Syndrome (EDS-HT) on various joints all over the body, are known. According to Maeland et al. , 98% of the patients report musculoskeletal symptoms. However, specific details on lower extremity in general, and foot and ankle in specific, are hardly inventoried.

AIM OF THIS STUDY

- The objective of this explorative study was to evaluate foot related problems and their impact on lower limb function in patients with EDS-HT.
- Different specific domains were covered:
 - foot pain
 - foot function
 - physical activity restriction of the lower limb.

Subjects:
23 female EDS-HT patients (age : 44.3±12.3; Beighton:6.3±1.9)
and 23, sex and age matched, control subjects (age : 44.7±12.3, Beighton: 2.8±1.8) were included.

- Materials:
- The Foot Function Index (FFI) was used to assess the presence of foot disorders in terms of pain, disability and activity restriction.
 - The Lower Extremity Function Scale (LEFS) was used to evaluate functional impairment of lower extremity in EDS-HT patients.
 - The ‘Foot Health Status Questionnaire’ (FHSQ) was used to evaluate foot health related quality of life.

METHODOLOGY

RESULTS

Concerning the **FFI**, patients with EDS-HT scored significantly higher for the domain of ‘pain’ and for ‘physical disability’, indicating a significant reduced foot function for the patient group due to foot disorders compared to the healthy control group. (Table 1)

Total **LEFS** scores, measuring the functional impairment of a patient with a disorder of one or both lower extremities, were significant lower in the EDS-HT group compared to the control indicating severe impact on lower extremity function.

Table 1 demonstrates the results in terms of percentage.

Regarding the **FHSQ**, EDS-HT subjects vs. controls scored significantly higher for foot pain (theoretical construct : *type, severity and duration*), for foot function (*feet impact on physical function*), for general foot health (*self perception of feet – body image*) and significantly lower for shoe information (*lifestyle/footwear*).

(Table 2)

CONCLUSION

Despite the limitations of the study, EDS-HT has proven to have a large disabling impact on foot function as well as on the entire lower limb segment.
The need for adequate screening and appropriate interventions clearly arises.

Tabel 1 : results in terms of percentage CG vs. EDS-HT

Group		%FFI	% LEFS	% VAS-FA
CG	Mean	16,54	90,71	83,26
	SD	12,16	12,97	18,93
	Min	10,00	56,25	41,00
	Max	54,29	100,00	100,00
EDS-HT	Mean	47,63	50,87	49,28
	SD	21,05	20,02	20,48
	Min	9,05	18,75	18,50
	Max	84,78	96,25	97,00
Mean Difference		-31,09	39,84	33,98
Significantie (2-tailed)		0,00	0,00	0,00

Tabel 2: between group detail on FHSQ

Group		Footpain	Foot function	General foothealth	Shoes
CG	Mean	1,61	1,46	2,48	3,49
	SD	1,03	0,84	1,10	1,50
	Min	1,00	1,00	1,00	1,00
	Max	4,25	3,75	4,50	5,00
EDS-HT	Mean	3,12	3,03	4,11	1,78
	SD	1,27	1,06	0,78	1,24
	Min	1,00	1,00	2,50	1,00
	Max	5,00	4,25	5,00	5,00
Mean Difference		-1,51	-1,58	-1,63	1,71
Significantie (2-tailed)		0,00	0,00	0,00	0,00